

restriction was made final. As presented in the Applicants' previous arguments, once the Claims of Group I are found allowable, Applicants reserve their right to amend the claims of Groups III and IV to be commensurate in scope with the product claims of Group I, and to request that the claims of Groups III and IV that depend from or otherwise include all the limitations of the allowable product be rejoined and examined for patentability. *In re Brouwer*, 37 USPQ2d 1663 (Fed. Cir. 1996); *In re Ochiai*, 37 USPQ2d 1127 (Fed. Cir. 1995). Accordingly, Applicants have amended the claims of Groups III and IV to be commensurate in scope with the claims of Group I in anticipation of a future request for rejoinder.

With respect to the Applicants' arguments regarding the restriction between Groups I and Group II, the Examiner interpreted Applicant's argument which cited *In re Gold* as an express admission that the antibody of Group II is obvious over the protein of Group I and thus if the protein of Group I is anticipated or obvious then the antibody of Group II would also be obvious.

Applicants respectfully traverse. The Applicants' arguments for traversal of the restriction between Groups I and II set forth in the response filed June 9, 1999 was directed to the Applicants' position that the Examiner could examine both groups without undue burden. Applicants did not intend such arguments to act as an express admission that the antibody of Group II is obvious over the protein of Group I. Accordingly, Applicants reaffirm the election to prosecute Group I and withdraw the traversal of the restriction between Groups I and II and have canceled the subject matter of Group II.

## 2. Withdrawn Rejections

Applicants gratefully acknowledge the Examiner's withdrawal of prior rejection of Claims 10, 14, and 19 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph; rejection of Claims 1-7, 9, 12-14, and 16-19

under 35 U.S.C. 112, 1<sup>st</sup> paragraph; and rejection of Claims 1, 2, 9-10, 12, 14-16, 18, 20-21, and 30 under 35 U.S.C. 112, 1<sup>st</sup> paragraph.

3. Rejection of Claims 1, 11-13, 16-19, and 25 under 35 U.S.C. 112, 2<sup>nd</sup> paragraph

a. The Examiner argued that Claims 1, 11-13 and 16-19 is indefinite due to the recitation of “hybridizes under stringent conditions”. The Examiner suggested that this rejection may be overcome by including defined hybridization conditions in the claim.

As suggested by the Examiner and in order to expedite allowance of claims, Applicants have, without prejudice or disclaimer of the subject matter thereof, amended Claims 1 and 16 to recite to recite hybridization conditions comprising hybridizing in 2X SSPE, 1% Sarkosyl, 5X Denhardts and 0.1 mg/ml denatured salmon sperm and washing in a solution comprising 2X SSPE and 1% Sarkosyl at 55°C. Applicants respectfully note that such conditions will permit hybridization between nucleic acid molecules which share about 71% or greater sequence identity. Support for these amendments may be found in the specification at page 17, lines 1-10.

b. The Examiner argued that Claim 25 is indefinite due to the recitation of “about 9 contiguous amino acid region” because an amino acid is a definite measure and the specification fails to define how many amino acids are encompassed by the term “about”. In response to the Examiner’s rejection, and in order to expedite allowance of claims, Applicants have, without prejudice or disclaimer of the subject matter thereof amended Claim 25 to remove recitation of the term “about”.

In view of the foregoing amendments, Applicants respectfully request withdrawal of the Examiner’s rejection of Claims 1, 11-13, 16-19, and 25 under 35 U.S.C. 112 2<sup>nd</sup> paragraph.

4. Rejection of Claims 1, 11-13, 16, 18, and 19 under 35 U.S.C. 102(b)

The Examiner rejected Claims 1, 11-13, 16, 18, and 19 under 35 U.S.C. 102(b) as being anticipated by Dumermuth et al. The Examiner noted that Dumermuth et al. teach cloning of a

human intestinal brush border metalloendopeptidase and a mouse kidney brush border metalloendopeptidase, both of which have strong similarities to astacin metalloendopeptidase.

With respect to Claims 1, 11, 16, and claims dependent therefrom, the Examiner argued that the claims are drawn to any protein encoded by any nucleic acid molecule that hybridizes under “stringent conditions” with sequences specified by such claims and therefore the polynucleotides of Dumermuth et al. meet the limitation of the claims. That is, the Examiner argues that since it is unclear what conditions are intended as “stringent”, the molecules of Dumermuth et al. would be expected to hybridize with the claimed sequences. The Examiner further noted that it would be expected that proteins disclosed in Dumermuth et al. would elicit an immune response to the proteins having the amino acid sequences defined in Claims 1, 11-12, and 16.

With respect to Claim 13, the Examiner noted that this is a product by process claim and therefore if a product in such a claim is the same as a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. The Examiner argued that Claim 13 is therefore anticipated by Dumermuth et al. for the reasons set out above. With respect to Claims 18 and 19, the Examiner noted that they differ from Claim 16 only in that they limit the intended use of the claimed composition, and are therefore anticipated by Dumermuth et al. for the reasons set out above.

The Examiner suggested that amending the claims to include the limitation that the protein is from *D. immitis* and including specific hybridization conditions with a percentage nucleic acid sequence identity of the nucleic acid molecules that would hybridize under such conditions would serve to overcome this rejection with respect to Claims 1, 13, and 16-19. With respect to Claim 11, the Examiner suggested that overcoming this rejection would also require deletion of the phrase “at least a portion” since the reference discloses at least a portion of the amino acid sequence identical to the claimed amino acids.

In order expedite allowance of claims, Applicant have, without prejudice or disclaimer of the subject matter thereof, amended the claims as described above in response to the Examiner's rejections under 35 U.S.C. 112, 2<sup>nd</sup> paragraph. Applicants argue that the foregoing claim amendments address all of the Examiner's concerns, thereby rendering the rejection over Dumermuth et al. moot. Further, Applicants note that sequence comparisons between nucleic acid molecules of the present invention and the nucleic acid molecules disclosed by Dumermuth et al. reveal sequence identities of no greater than about 24% and therefore assert that a nucleic acid molecule of Dumermuth et al. would not hybridize to a nucleic acid molecule of the present invention under the conditions set out above.

In view of the foregoing arguments and amendments, Applicants respectfully request withdrawal of the Examiner's rejection of Claims 1, 11-13, 16, 18, and 19 under 35 U.S.C. 102(b).

5. Rejection of Claim 25 under 35 U.S.C. 102(b)

The Examiner rejected Claim 25 under 35 U.S.C. 102(b) as anticipated by Waterston, 1995 (GenBank Accession NO. U41554). The Examiner noted that Claim 25 is directed to a protein having a SEQ ID NO of the present invention or a homolog of such a protein, where such homolog has an at least 9 contiguous amino acid region identical in sequence to a 9 contiguous amino acid region of a sequence of the present invention. The Examiner argued that Waterston teaches an amino acid sequence having a 13 amino acid region which is 100% identical to a region of sequences 31 and 34, and thus Waterston anticipates the claim.

Applicants respectfully traverse the Examiner's argument. Applicants note that the present application claims priority to prior application U.S. Ser. No. 08/249,552, filed May 26, 1994 and thus has the benefit of a filing date earlier than the disclosure of Waterston. Applicants respectfully argue that while SEQ ID Nos. 31 and 34 were not disclosed in their current form in the prior application, the prior application discloses partial sequences which were aligned to describe full-

length proteins having high identity with SEQ ID Nos. 31 and 34. Further, the partial sequences of the priority application were used to isolate clones containing SEQ ID Nos. 31 and 34 and the present specification describes the location of the previous partial-length sequences within SEQ ID Nos. 31 and 34. Applicants therefore assert that SEQ ID Nos. 31 and 34 are sufficiently described in the prior application to be accorded the earlier priority date.

In view of the foregoing, Applicants respectfully request withdrawal of the Examiner's rejection of Claim 25 under 35 U.S.C. 102(b).

6. Rejection of Claims 1, 11-13, 15-16, 18, and 19 under 35 U.S.C. 103(a)

The Examiner rejected Claims 1, 11-13, 15-16, 18, and 19 under 35 U.S.C. 103(a) as obvious over Dumermuth et al. The Examiner rejected Claims 1, 11-13, 16, 18, and 19 for the reasons set forth in the rejection under 35 U.S.C. 102(b) as set out above. With respect to Claim 15, the Examiner noted that the claim is directed to an antibody against a protein of Claim 1, and therefore since the Applicants response to the restriction requirement has been interpreted as an express admission that the antibody of Group II is obvious over the protein of Group I within the meaning of 35 U.S.C. 103, the antibody of Claim 15 is obvious over Dumermuth et al. for the same reasons set forth with respect to the proteins of Group I.

Initially, Applicants note that Claim 15 has been canceled as set out above in response to the Examiner's comments regarding the restriction between Groups I and II. In order expedite allowance of claims, Applicant have, without prejudice or disclaimer of the subject matter thereof, amended the claims as described above in response to the Examiner's rejections under 35 U.S.C. 112, 2<sup>nd</sup> paragraph. Applicants argue that the foregoing claim amendments address all of the Examiner's concerns, therefore rendering the rejection over Dumermuth et al. moot.

In view of the foregoing, Applicants respectfully request withdrawal of the Examiner's rejection of Claims 1, 11-13, 15-16, 18, and 19 under 35 U.S.C. 103(a).

In view of the foregoing amendments and remarks, Applicants submit that all pending claims are in condition for allowance. Consideration of the above and withdrawal of all rejections are hereby requested. In the event that the Examiner has any questions regarding Applicants' position, the Examiner is invited to contact the below named attorney at (303) 863-9700.

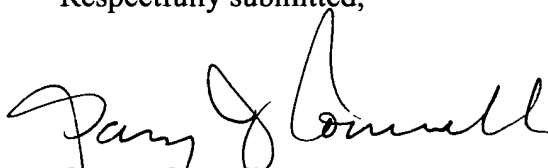
**Note: The law firm of Sheridan Ross P.C. has moved. The current correspondence address for this application is:**

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**A change of address notice for this application has been submitted to the U.S. Patent and Trademark Office.**

Respectfully submitted,

Date: 17 Dec 99



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